

Amendments to The Claims

The following listing of claims replaces all prior versions and listings of the claims in this application.

Listing of the Claims

1-193. (Cancelled)

194. (Previously presented) An isolated heteromeric taste receptor that responds to umami taste stimuli and comprises at least one T1R1 polypeptide and at least one T1R3 polypeptide, wherein said T1R1 polypeptide is (i) encoded by a nucleic acid sequence comprising SEQ. ID. NO: 8, (ii) encoded by a nucleic acid sequence comprising a nucleic acid that hybridizes to SEQ. ID. NO: 8 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS, or (iii) a T1R1 polypeptide possessing at least 95% sequence identity to the T1R1 polypeptide of SEQ. ID. NO: 5;

and wherein said T1R3 polypeptide is (i) encoded by a nucleic acid sequence comprising SEQ. ID. NO: 9 or SEQ. ID. NO: 11; (ii) encoded by a nucleic acid sequence that hybridizes to SEQ. ID. NO: 9 or SEQ. ID. NO: 11 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, 10% SDS; and washing at 65°C in a solution comprising 0.2X SCC and 0.1% SDS, or (iii) a T1R3 polypeptide possessing at least 95% sequence identity to the T1R3 polypeptide of SEQ. ID. NO: 4 or SEQ. ID. NO: 7.

195. (Previously presented) The isolated heteromeric receptor of claim 194, which is expressed by a recombinant host cell that contains T1R1 and T1R3 nucleic acid sequences.

196. (Currently amended) The isolated heteromeric receptor of claim 194, wherein said T1R1 polypeptide is selected from the group consisting of human, mouse and rat T1R1 and said T1R3 is selected from the group consisting of human mouse and ~~rat~~ rat T1R3.

197. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R1 and T1R3 are of different species origin.

198. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R1 and T1R3 polypeptide are of the same species origin.

199. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R1 polypeptide has the sequence of SEQ. ID. NO: 5.

200. (Canceled)

201. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R1 receptor polypeptide has an amino acid sequence that possesses at least 95% sequence identity to the polypeptide of SEQ. ID. NO: 5.

202. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R1 receptor polypeptide has an amino acid sequence that possesses at least 96% sequence identity to the polypeptide of SEQ. ID. NO: 5.

203. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R1 receptor polypeptide has an amino acid sequence that possesses at least 97% sequence identity to the polypeptide of SEQ. ID. NO: 5.

204. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R1 receptor polypeptide has a sequence that possesses at least 98% sequence identity to the polypeptide of SEQ. ID. NO: 5.

205. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R1 receptor polypeptide has an amino acid sequence that possesses at least 99% sequence identity to the polypeptide of SEQ. ID. NO: 5.

206. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R1 polypeptide is encoded by the nucleic acid sequence of SEQ. ID. NO: 8.

207. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R1 polypeptide is encoded by a nucleic acid sequence that hybridizes to SEQ ID NO: 8 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS.

208. (Canceled)

209. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 is a human T1R3 polypeptide having the sequence of SEQ. ID. NO: 7.

210. (Canceled)

211. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide having at least 95% sequence identity to the polypeptide of SEQ. ID. NO: 7.

212. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide having at least 96% sequence identity to the polypeptide of SEQ. ID. NO: 7.

213. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide having at least 97% sequence identity to the polypeptide of SEQ. ID. NO: 7.

214. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide having at least 98% sequence identity to the polypeptide of SEQ. ID. NO: 7.

215. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide having at least 99% sequence identity to the polypeptide of SEQ. ID. NO: 7.

216. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 polypeptide is encoded by the nucleic acid sequence of SEQ. ID. NO: 9 or SEQ. ID. NO: 11.

217. (Currently amended) The isolated heteromeric receptor ~~reporter~~ of claim 194, wherein said T1R3 polypeptide is encoded by a nucleic acid sequence that hybridizes to SEQ ID NO: 9 or SEQ. ID. NO: 11 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS.

218. (Previously presented) The isolated heteromeric receptor of claim 194 which is expressed by a recombinant host cell.

219. (Previously presented) The isolated heteromeric receptor of claim ~~194~~ 218, wherein said cell is a mammalian, yeast, insect or amphibian cell.

220. (Previously presented) A membrane extract comprising said heteromeric receptor of claim 194.

221. (Previously presented) A lipid bilayer comprising said said heteromeric receptor of claim 194.

222. (Previously presented) The isolated heteromeric receptor of claim 194 which is immobilized on a solid phase.

223. (Previously presented) The isolated heteromeric receptor of claim 194 which is attached to a detectable label.

224. (Previously presented) The isolated heteromeric receptor of claim 223, wherein said label is an enzyme, radionuclide, fluorophore or chemiluminescent compound.

225. (Previously presented) The isolated heteromeric receptor of claim 194 which further comprises a G protein.

226. (Previously presented) The isolated heteromeric receptor of claim 225, wherein said G protein is $G_{\alpha 15}$, $G_{\alpha 16}$, gustducin or transducin.

227. (Previously presented) The isolated heteromeric receptor of claim 194 which is complexed with an antibody.

228. (Previously presented) The isolated heteromeric receptor of claim 194 which is in solution.

229. (Previously presented) The isolated heteromeric receptor of claim 194 wherein said T1R1 polypeptide comprises the amino acid sequence of SEQ. ID. NO: 5 and said T1R3 polypeptide comprises the sequence of SEQ. ID. NO: 4 or SEQ. ID. NO: 7.

230. (Currently amended) An isolated heteromeric taste receptor that responds to umami taste stimuli and comprises at least one T1R1 polypeptide and at least one T1R3 polypeptide, wherein said T1R1 polypeptide possesses at least 95% sequence identity to the human, mouse, or rat T1R1 ~~T1R2~~ of Figure 1; and wherein said T1R3 polypeptide possesses at least 95% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

231. (Currently amended) The isolated heteromeric receptor of claim 230 ~~194~~ which is expressed by a recombinant host cell.

232. (Currently amended) The isolated heteromeric receptor ~~cell~~ of claim 231, which is selected from the group consisting bacterial, yeast, mammalian, amphibian and insect cells.

233. (Currently amended) The isolated heteromeric receptor ~~cell~~ of claim 231, wherein said cell is a prokaryotic cell.

234. (Currently amended) The isolated heteromeric receptor ~~cell~~ of claim 231, wherein said cell is a eukaryotic cell.

235. (Currently amended) The isolated heteromeric receptor ~~cell~~ of claim 234, wherein the eukaryotic cell is a CHO, HEK-293, COS or Xenopus oocyte.

236. (Currently amended) The isolated heteromeric receptor cell of claim 230, wherein said T1R1 ~~T1R2~~ and T1R3 are derived from different species.

237. (Currently amended) The isolated heteromeric receptor method of claim 230, wherein said T1R1 ~~T1R2~~ and T1R3 are of the same species.

238. (Currently amended) The isolated heteromeric receptor cell of claim 230, which further expresses a G protein.

239. (Currently amended) The isolated heteromeric receptor cell of claim 238, wherein said G protein is $G\alpha_{15}$, $G\alpha_{16}$ or gustducin.

240. (Currently amended) The isolated heteromeric receptor cell of claim 230, wherein T1R1 polypeptide is the human, mouse, or rat T1R1 of Figure 1.

241. (Currently amended) The isolated heteromeric receptor cell of claim 230, wherein said T1R1 polypeptide has at least 95% sequence identity to the human, mouse, or rat T1R1 of Figure 1.

242. (Currently amended) The isolated heteromeric receptor cell of claim 230, wherein said T1R1 polypeptide has at least 96% sequence identity to the human, mouse, or rat T1R1 of Figure 1.

243. (Currently amended) The isolated heteromeric receptor cell of claim 230, wherein said T1R2 polypeptide has at least 97% sequence identity to the human, mouse, or rat T1R1 of Figure 1.

244. (Currently amended) The isolated heteromeric receptor cell of claim 230, wherein said T1R1 polypeptide has at least 98% sequence identity to the human, mouse, or rat T1R1 of Figure 1.

245. (Currently amended) The isolated heteromeric receptor cell of claim 230, wherein said T1R2 polypeptide has at least 99% sequence identity to the human, mouse, or rat T1R1 of Figure 1.

246. (Currently amended) The isolated heteromeric receptor ~~cell~~ of claim 230, wherein T1R3 polypeptide is the human, mouse, or rat T1R3 of Figure 1.

247. (Currently amended) The isolated heteromeric receptor ~~cell~~ of claim 230, wherein said T1R3 polypeptide has at least 95% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

248. (Currently amended) The isolated heteromeric receptor ~~cell~~ of claim 230, wherein said T1R3 polypeptide has at least 96% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

249. (Currently amended) The isolated heteromeric receptor ~~cell~~ of claim 230, wherein said T1R3 polypeptide has at least 97% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

250. (Currently amended) The isolated heteromeric receptor ~~cell~~ of claim 230, wherein said T1R3 polypeptide has at least 98% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

251. (Currently amended) The isolated heteromeric receptor ~~cell~~ of claim 230, wherein said T1R3 polypeptide has at least 99% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

252. (Previously presented) A membrane extract comprising said heteromeric receptor of claim 230.

253. (Previously presented) A lipid bilayer comprising said heteromeric receptor of claim 230.

254. (Previously presented) The isolated heteromeric receptor of claim 230 which is immobilized on a solid phase.

255. (Previously presented) The isolated heteromeric receptor of claim 230 which is attached to a detectable label.

256. (Previously presented) The isolated heteromeric receptor of claim 255, wherein said label is an enzyme, radionuclide, fluorophase or chemiluminescent compound.

257. (Previously presented) The isolated heteromeric receptor of claim 230 which is bound to an antibody.

258. (Previously presented) The isolated heteromeric receptor of claim 230 which is in solution.